UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/835,163	04/13/2001	Kevin R. Hudson	10004098-1	4875

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HEWLETT-PACKARD COMPANY	MENBERU, BENIYAM

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2626	

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/835,163	HUDSON ET AL.
	Examiner	Art Unit
	Beniyam Menberu	2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 April 2001*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 101904

DETAILED ACTION

Oath/Declaration

1.   Applicant has not given a post office address anywhere in the application papers

as required by 37 CFR 1.33(a), which was in effect at the time of filing of the oath or

declaration. A statement over applicant's signature providing a complete post office

address is required.

Specification

2.   The disclosure is objected to because of the following informalities:

On page 6, line 7, "CEILab" should be "CIELab".

On page 8, line 21, "may library" should be "map library".

On page 8, line 25, "Where" should be "When".

On page 9, line 19 and 24-25, reference items 406,506, 606 are mentioned

before the relevant figure they are used in is described.

On page 10, line 2, "results a faulty mapping process" should be "results in a

faulty mapping process".

On page 14, line 23, "such as CEILab" should be "such as CIELab".

On page 16, line 7, "that are include" should be "that are included".

On page 17, lines 23-24, "the located on a print server or other location" should

be omitted.

Appropriate correction is required.

Claim Objections

3.   Claims 1 and 12 are objected to because of the following informalities:

In claim 1, line 8, "rending" should be "rendering".

In claim 12, line 23, "desired the" should be "the desired".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1, 10, 15, 16, 17, 18, 19, 20, and 21 are rejected under 35 U.S.C. 102(e)

as being anticipated by U.S. Patent No. 6549654 to Kumada.

Regarding claims 1, 15, 18, and 19, Kumada disclose a system , method and

program (column 15, lines 52-56) for selecting a color map for use in printing a

document, comprising: obtaining color space information about the document (Figure

25, reference S1101; column 10, lines 25-28); obtaining at least two color maps

(Kumada performs matching on the gamut of 3 printers with gamut of input document

image (column 10, lines 29-32).); and determining which of the at least two color maps

will result in a printed document that is more consistent with the color space information

and a desired rendering intent (column 10, lines 29-32; column 9, lines 66-67; column

10, lines 1-3).

Regarding claim 10, Kumada discloses a method of claim 1, additionally

comprising: providing a preferences interface to an author, whereby the author may

indicate a preferred rendering intent to constrain the determining step (column 9, lines

64-67; column 10, lines 1-3; Figure 23).

Regarding claim 16, Kumada teaches all the limitations of claim 15. Further

Kumada discloses a method of claim 15, additionally comprising providing a library of

color maps from which to select for the evaluating step (Kumada performs matching on

the gamut of 3 printers with gamut of input document image (column 10, lines 29-32).).

Regarding claims 17 and 20, Kumada teaches all the limitations of claim 15 and

19 respectively. Further Kumada discloses a method of claim 15, additionally

comprising providing an interface to determine the desired rendering intent (column 9,

lines 64-67; column 10, lines 1-3).

Regarding claim 21, Kumada teaches all the limitations of claim 19 respectively.

Further Kumada discloses a system of claim 19, additionally comprising: a gamut

management module (column 9, lines 59-63), in communication with the evaluation

module (Figure 22, reference 114; column 9, lines 53-55), to organize a gamut library

(column 9, lines 59-63).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6549654 to Kumada in view of U.S. Patent No 5508826 to Lloyd et al.

Regarding claim 2, Kumada teaches all the limitations of claim 1. However

Kumada does not disclose a method of claim 1, wherein the at least two color maps are

derived from color information obtained by sensors in a print path of a printer.

Lloyd et al disclose a method of claim 1, wherein the at least two color maps are

derived from color information obtained by sensors in a print path of a printer (column 6,

lines 9-16).

Kumada and Lloyd et al are combinable because they are in the similar problem

area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to combine the method of using sensor as taught by Lloyd et al in the

system of Kumada to implement a precise color printing system.

The motivation to combine the reference is clear because Lloyd et al teaches

that the sensors are used for self-calibration of the printing system (column 6, lines 9-

12).

8.   Claims 3, 4, 5, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 6268930 to Ohta et al.

Regarding claim 3, Kumada teaches all the limitations of claim 1. However Kumada does not disclose a method of claim 1, wherein the determining step comprises: analyzing a boundary of each color map; and performing a best-fit analysis with respect to the color space information.

Ohta et al discloses a method of claim 1, wherein the determining step comprises: analyzing a boundary of each color map (column 5, lines 9-20); and performing a best-fit analysis with respect to the color space information (Ohta et al disclose a system that determines whether input image data is within gamut of output device (column 4, lines 50-60).).

Kumada and Ohta et al are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of best-fit analysis as taught by Ohta et al with the system of Kumada to implement color printing system which selects the optimum printer based on input color document.

The motivation to combine the reference is clear because by using the system of Ohta et al, the optimum printer which covers the gamut of the color document can be utilized for printing.

Regarding claim 4, Kumada in view of Ohta et al teach all the limitations of claim 3. Further Ohta et al disclose a method of claim 3, wherein best-fit analysis comprises mean and maximum difference calculations on boundaries of a color space consistent with the color space information and a color space associated with each of the at least two color maps (column 17, lines 5-13; column 19, lines 15-38; Figure 26-27).

Regarding claim 5, Kumada in view of Ohta et al teach all the limitations of claim 3. Further Ohta et al disclose a method of claim 3, wherein best-fit analysis is based on calculating and comparing volumes of a color space associated with the document and of a color space associated with each of the color maps (Ohta et al disclose the use of polyhedron to determine whether image signals are within gamut of output device where the polyhedron is a 3-dimensional figure representing volume of the gamut of output device (column 5, lines 9-21)).

Regarding claim 6, Kumada in view of Ohta et al teach all the limitations of claim 3. Further Ohta et al disclose a method of claim 3, wherein best-fit analysis is based on determining a percentage of colors used by the document contained within each of the at least two color maps (Ohta et al disclose a counting method for counting pixels that are outside gamut of printing device (column 4, lines 56-61). The count value can be used to determine percentage of pixels outside gamut of printing device.).

Regarding claim 7, Kumada in view of Ohta et al teach all the limitations of claim 3. Further Ohta et al disclose a method of claim 3, wherein best-fit analysis is based on determining the percentage of the area of the document associated with colors contained within each of the color maps (Ohta et al disclose a counting method for

counting pixels that are outside gamut of printing device (column 4, lines 56-61). Since

pixels are representative of an area of document image space, knowing number of

pixels outside gamut of printing device can give indication of area coverage of

document image space within gamut of printing device.).

9.   Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6549654 to Kumada in view of U.S. Patent No. 6646762 to

Balasubramanian et al.

    Regarding claim 8, Kumada teaches all the limitations of claim 1. However

Kumada does not disclose a method of claim 1, additionally comprising: generating a

custom gamut mapping.

    Balasubramanian et al discloses a method for generating a custom gamut

mapping (Figure 6, reference G1; column 5, lines 33-36).

    Kumada and Balasubramanian et al are combinable because they are in the

similar problem area of color printing.

    At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to combine the gamut mapping function of Balasubramanian et al in the

system of Kumada to perform gamut mapping for out of gamut colors.

    The motivation to combine the reference is clear because if colors are out of

range for a printer gamut it is necessary to perform mapping to bring the colors within

range of the printer's gamut.

10.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6549654 to Kumada in view of U.S. Patent No. 6757071 to Goodman et al.

Regarding claim 9, Kumada teaches all the limitations of claim 1. However, Kumada does not disclose a method of claim 1, additionally comprising: previewing an approximation of a printed appearance of the document based on at least one of the at least two color maps.

Goodman et al disclose a method of claim 1, additionally comprising: previewing an approximation of a printed appearance of the document based on at least one of the at least two color maps (column 4, lines 49-54).

Kumada and Goodman et al are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the preview method of Goodman et al with the color printing method taught by Kumada to implement a method for previewing color documents before printing.

The motivation to combine the reference is clear because it is convenient to have a method for previewing a document before it is printed to avoid unnecessary printing.

11.   Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 5806081 to Swen et al.

Regarding claim 11, Kumada teaches all the limitations of claim 1. However Kumada does not disclose a method of claim 1, wherein the desired rendering intent is based on an absolute colorimetric.

Swen et al disclose a method of claim 1, wherein the desired rendering intent is based on an absolute colorimetric (column 8, lines 52-54).

Kumada and Swen et al are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the option of having a colorimetic rendering intent as taught by Swen et al into they system of Kumada to implement a versatile color printing system.

The motivation to combine the reference is clear because it is convenient for the user to have option on how to present a color document at an output device such as a printer.

Regarding claim 12, Kumada teaches all the limitations of claim 1. Further Swen et al disclose a method where in desired the rendering intent is based on a perceptual rendering intent (column 8, lines 52-54).

12.   Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 6693718 to Takaoka.

Regarding claim 13, Kumada teaches all the limitations of claim 1. However Kumada does not disclose a method of claim 1, additionally comprising locating the at least two color maps on a print server.

Takaoka discloses a method of claim 1, additionally comprising locating the at least two color maps on a print server (column 9, lines 16-20, lines 24-27; Figure 9).

Takaoka and Kumada are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of providing print profiles on servers as taught by Takaoka into the system of Kumada to provide for color printing over a network.

The motivation to combine the reference is clear because Takaoka teaches to use a server to maintain the device profiles due to changes in the device characteristics (column 9, lines 14-19).

13.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6549654 to Kumada in view of U.S. Patent No. 6633400 to Sasaki et al.

Regarding claim 14, Kumada teaches all the limitations of claim 1. However Kumada does not disclose a method of claim 1, additionally comprising locating the at least two color maps on individual printers.

Sasaki et al disclose a method of claim 1, additionally comprising locating the at least two color maps on individual printers (column 8, lines 20-27).

Kumada and Sasaki et al are combinable because they are in the similar problem area of color printing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the property data storing method (column 8, lines 20-22) of Sasaki et al into the system of Kumada to store print profiles on printers.

The motivation to combine the reference is clear because if a network printer is to be used and the printer is far away from the server, print profile changes can be made locally to the printer instead of at where the server is located.

Other Prior Art Cited

14.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

U.S. Patent Application Publication No. US 2004/0135793 A1 to Nakajima

discloses a color-matching processor.

U.S. Patent Application Publication No. US 2001/0043357 A1 to Owa et al

discloses a selector for print devices.

U.S. Patent No. 6606165 to Barry et al. discloses a print router.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Beniyam Menberu whose telephone number is (703)

306-3441. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kimberly Williams can be reached on (703) 305-4863. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the customer service office whose telephone number

is (703) 306-5631. The group receptionist number for TC 2600 is (703) 305-4700.

Patent Examiner

Beniyam Menberu   *KAWilliams*
BM
10/21/2004   KIMBERLY WILLIAMS
                    SUPERVISORY PATENT EXAMINER